

REMARKS

In response to the final Official Action of October 10, 2008, slight amendment has been made to claim 1 to correct an antecedent basis error and in claims 1, 10, and 27 to make clear that the sending of a request to a mobile communication network is to switch and transmit said multicast data via a point-to-point channel.

Claim Rejections - 35 USC §103

At section 2, claims 1, 2, 5, 6, 8, 10, 23, 27, and 28¹ are rejected under 35 USC §103(a) as unpatentable over US patent application publication 2003/0220119, Terry (hereinafter Terry I), in view of US patent 5,572,678, Homma, et al (hereinafter Homma).

With respect to claim 1, the Office asserts that Terry I teaches a method comprising at a mobile station determining a link quality of the point-to-multipoint channel based on link quality related measurements on said point-to-multipoint channel, while multicasting on a point-to-multipoint channel. The Office asserts that Terry I does not expressly disclose sending a request to said mobile communication network to transmit said multicast data via a point-to-point channel in case said determined link quality lies below a give[n] link quality, but asserts that Homma teaches sending a request to said mobile communication network to transmit said multicast data via a point-to-multipoint channel in case determined link quality lies below a give[n] link quality and that it would be obvious to one of ordinary skill in the art at the time of the invention to add the sending a request to said mobile communication network to transmit said multicast data via a point-to-point channel in case a determined link quality lies below a give[n] link quality of Homma to the system of Terry I in order to build a system which can recover when a message is corrupted or lost. Applicant respectfully disagrees.

More particularly, Terry I is directed to transfer of service data in a wireless communication system. A first service identification is transmitted for reception by a group of users of a cell in the system, where the group of users does not include all of the users of the cell. Each of the group of users receives the service identification and each of the group of users monitors for a second service identification being transmitted

over a high-speed downlink shared channel (HS-DSCH). The service data is transmitted over the HS-DSCH with the second service identification and each of the group of users detects the second service identification and receives the service data of the HS-DSCH (Terry I, Abstract).

Terry I does not disclose that a mobile station sends a request to a mobile communication network to transmit said multicast data via a point-to-point channel, in case said determined link quality lies below a given link quality. Terry I only discloses sending channel quality measurements on a HS-DSCH to a network element. Such measurements are, for example, the signal to interference ratio (SIR) or block error rate (BLER) (Terry I, paragraph [0023]).

It is also indicated in Terry I that channel quality can be derived from the downlink associated dedicated channel, but in all cases, these channel quality measurements are with respect to a high-speed downlink shared channel (HS-DSCH) to a network element.

Terry I also does not disclose sending link quality related data for enabling a request to a mobile communication network to transmit multicast data via a point-to-point channel in case the determined link quality lies below a given link quality as required by claim 1. Rather, Terry I discloses that channel quality measurement results are provided only as a basis for selecting a modulation and coding scheme (MCS) for a point-to-multipoint transmission (Terry I, paragraph [0025]). Figure 3 of Terry I only shows that the channel quality measurement processor 30 provides values to an MCS selection device 28, not to any switching or scheduling mechanism like mechanism 46 shown in Figure 4 of Terry I. The criteria for switching between point-to-multipoint and point-to-point in Terry I are indicated in paragraphs [0027]-[0029]. These criteria include only quality of service (QoS) requirements which are not a determined link quality and therefore there is no link in Terry I between link quality measurements and switching from point-to-multipoint to point-to-point as required by claim 1.

The missing feature of sending a request to a mobile communication network to switch and transmit said multicast data via a point-to-point channel, in case said determined link quality lies below a given link quality is not found in Homma as asserted by the Office.

¹ Claim 28 is canceled. It is apparent that the Office's comments in the final Office Action which appear at page 5,

More particularly, Homma is directed to a data communication method for transmitting a large amount of data via a network, such as a LAN to which a plurality of stations or terminals are connected, through a simplified processing procedure. The large amount of data is transmitted from a sender station to a plurality of receiver stations by utilizing a connectionless communication service while inter-station reception acknowledging/retransmitting processing are performed by using a connection-oriented communication service. The large amount of data to be transmitted is divided into a plurality of blocks, and inter-block delay time is set on the basis of station status factors, such as a permissible load increase rate of the CPU of the individual stations (Homma, Abstract). The Office specifically relies on column 5, line 34 through column 6, line 7 of Homma. As there indicated, Homma only discloses that a mobile station transmits a retransmission request in case of a drop-out of an information frame. Specifically, it is stated at column 5, lines 43-55:

“Although the multicast transmission can enjoy a high efficiency because the information frames can be transmitted to a plurality of sink terminals through a single send-out operation, there may occur drop-out or loss of the information frame due to a communication error because the multicast transmission is lacking of procedure, as mentioned previously. Upon occurrence of such drop-out of information frame, the corresponding information frame must be sent again. Now, in a step 104 of FIG. 1, in response to a retransmission request issued by a destination receiver terminal, a retransmission processing is executed by utilizing the point-to-point channel of a high reliability which has been establish in the step 101.” (emphasis added)

It is therefore respectfully submitted that the combination of Terry I and Homma does not disclose or suggest enabling a mobile station to request a switch from point-to-multipoint to point-to-point based on a determined link quality. It is therefore respectfully submitted that claim 1 as amended is distinguished over the cited art and allowance of this claim is earnestly requested.

Amended independent apparatus claim 10 corresponds to amended independent method claim 1 and for similar reasons is also believed to be distinguished over Terry I in view of Homma.

In the Response to Arguments section concerning claims 1 and 10, the Office asserts that applicant's argument that Terry I needs to teach "a mobile station sends a request to switch from a point-to-multipoint channel transmission to a point-to-point" is not persuasive because "a mobile station sends a request to switch from a point-to-multipoint channel transmission to a point-to-point" is not a claimed limitation. Claim 1 as amended recites the feature of the mobile station sending a request to a mobile communication network to switch and transmit. It is therefore clear that the request is to switch from a point-to-multipoint channel to a point-to-point channel with regard to said multicast data.

Amended independent apparatus claim 27 corresponds to amended independent apparatus claim 10, but written using means plus function terminology and for similar reasons as those presented above with respect to claim 10, claim 27 is also distinguished over Terry I in view of Homma.

Since independent claims 1, and 10 are distinguished over the cited art, it is respectfully submitted that dependent claims 2, 5, 6, 8, and 23 are further distinguished over the cited art at least in view of their dependency from either independent claim 1 or 10.

At section 3, claims 16, 35 and 36 are rejected under 35 USC §103(a) as unpatentable over Terry I further in view of US patent 6,810,236, Terry, et al (hereinafter Terry II).

Independent method claim 16 is directed to a method comprising at a mobile communication network the actions of requesting and receiving from a mobile station measurement results for link quality related measurements on a point-to-point channel, which point-to-point channel is currently used by said network for transmitting multicast data to said mobile station, estimating a link quality of a point-to-multipoint channel while transmitting multicast data on said point-to-point channel to said mobile station, wherein said mobile communication network estimates said link quality of said point-to-multipoint channel based on said measurement results for said point-to-point channel, in case said estimated link quality of said point-to-multipoint channel reaches a required

link quality, ordering said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data.

The Office asserts that Terry I teaches receiving from a mobile station measurement results of link quality related measurements on a point-to-point channel which point-to-point channel is currently used by said network from [sic] for transmitting multicast data to said mobile station. Applicant respectfully disagrees since Terry I, including Figures 3 and 4 thereof, does not disclose measurements on a point-to-point channel. According to Figure 3, UE₁₂ receives the signals for quality measurement via the CCC receiver 36. As indicated in Terry I, CCC stands for common control channel receiver (Terry I, paragraph [0021]). Therefore, the measurements are not measurements of a point-to-point channel and therefore the specific features recited in the first action of claim 16 are not found in Terry I. Furthermore, as noted by the Office, Terry I does not disclose the feature of claim 16 that a network request measurement results from a mobile station. Terry I also does not teach the features of claim 16 of a network that estimates a link quality of a point-to-multipoint channel based on measurement results from a point-to-point channel. There is no suggestion in Terry I that such a cross-wise estimation of a link quality for one type of channel based on measurement results of another type of channel.

Claim 16 further requires that the estimated link quality is used as a basis for deciding whether a mobile station is to be ordered to switch from a point-to-point reception to a point-to-multipoint reception. Terry I does not disclose any link between channel measurements and a switch between point-to-point and point-to-multipoint. Rather, channel quality measurement results are provided only as a basis for selecting a modulation and coding set (MCS) for the point-to-multipoint transmission (Terry I, paragraph [0025]). Figure 3 of Terry I to which the Office refers, only shows that the channel quality measurement processor 30 provides values to an MCS selection device 28, not to any switching or scheduling mechanism. The criteria for switching between point-to-point and point-to-multipoint in Terry I are set forth in paragraphs [0027]-[0029] of Terry I. These criteria include Quality of Service (QoS) requirements (that is, predetermined values) not estimated link quality (that is, a situation dependent value). Thus, there is no link in Terry I between link quality measurements and a switching from point-to-point to point-to-multipoint.

Terry II is directed to a wireless digital communication method for communicating between a base station and a plurality of user equipment mobile terminals and employs adaptive modulation and coding to achieve improved radio resource utilization and provide optimum data rates for user services. The user equipment responds to the request for downlink channel quality measurements by measuring and reporting downlink channel quality to the base station which then allocates resources such that the user equipment will make best use of radio resources (Terry II, Abstract).

Thus, at best, Terry II discloses that a communication network can request and receive channel quality measurements from a mobile station. However, all of the other features as recited above with respect to claim 16 are not found in Terry I or Terry II and it is therefore respectfully submitted that claim 16 is distinguished over the cited references.

With regard to claims 16 and 36 in the Response to Amendment section, the Office asserts that the term "related measurements" is broadly claimed. Applicant respectfully disagrees in that the term "related measurements" is with respect to "link quality" and thus related measurements must be related to link quality not some other characteristic such as Quality of Service which is unrelated to link quality. Consequently, applicant's arguments as presented above are believed to be germane.

Furthermore, applicant does not understand the argument presented at the second full paragraph at page 15 of the final Office Action where the Office states that "estimated link quality is used as a basis for deciding on whether a mobile station is to be ordered to switch from a point-to-point reception to point-to-multipoint reception" is not a claim limitation. The claimed limitation is in fact in case said estimated link quality of said point-to-multipoint channel reaches a required link quality, ordering said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data.

Applicant respectfully believes that the Office may have misinterpreted applicant's prior argument concerning claim 16, since claim 16 specifically requires ordering said mobile station to switch from said point-to-point channel to said point-to-multipoint channel for receiving multicast data if said estimated link quality of said point-to-multipoint reaches a required link quality. Said link quality of a point-to-multipoint

channel is defined as being estimated based on measurement results for said point-to-point channel which link quality measurements are received from the mobile station.

Consequently, applicant's arguments are believed to be appropriately set forth in the claim language.

Independent apparatus claim 35 corresponds to independent method claim 16 and, for similar reasons, is also believed to be distinguished over Terry I and Terry II.

Similarly, independent apparatus claim 36 which is written from the point of view of a measuring component configured to perform link quality related measurements on a point-to-point channel, which point-to-point channel is currently used by a mobile communication network for transmitting multicast data to said apparatus, as well as a switching component configured to receive an order from said mobile communication network to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data, in case said mobile communication network determines that said estimated link quality of said point-to-multipoint channel reaches a required link quality, and to switch from said point-to-point channel to said point-to-multipoint channel for receiving said multicast data upon receipt of said order, is similarly distinguished over Terry I and Terry II since it corresponds to the apparatus that receives the request from an apparatus as set forth in independent claim 35.

At section 4, claim 26 is rejected under 35 USC §103(a). Claim 26 has been canceled and it appears that the arguments presented relate to the version of claim 26 prior to its cancellation.

At section 5, claims 17, 19-21, 25, 29, and 34 are rejected under 35 USC §102(e) as anticipated in view of Terry I. With respect to claim 17, this claim is a method claim written from the perspective of a mobile communication network.

Claim 17 requires estimating a link quality of a point-to-multipoint channel while transmitting multicast data on a point-to-point channel to a mobile station. This is not disclosed by Terry I. In Terry I, the channel quality measurement processor 30 recovers channel quality measurements from users of a HS-DSCH (paragraph [0025]), and thus while transmitting multicast data on a point-to-multipoint channel. Only the feedback from the mobile stations providing the measurement results might be considered a point-to-point transmission.

Claim 17 moreover requires using an estimated link quality as a basis for deciding on a switching from a point-to-point channel to a point-to-multipoint channel. It is not disclosed by Terry I that the collected quality measurements (or any derived estimates) are used for such a purpose. In Terry I, the collected quality measurements are only used for selecting an MCS for a point-to-multipoint transmission (paragraph [0025]). Figure 3 of Terry I, to which the Office refers, only shows that the channel quality measurement processor 30 provides values to an MCS selection device 28, not to any switching or scheduling mechanism. The criteria for switching between point-to-point and point-to-multipoint in Terry I are indicated in paragraphs [0027]-[0029]. They include QoS requirements (i.e., predetermined values) not estimated link quality (i.e., a situation dependent value).

It should further be pointed out that in Terry I, there is no estimation of a link quality while transmitting multicast data on a point-to-point channel since the measurements in Terry I are measurements on a point-to-multipoint channel. There is no indication in Terry I that the Node B 18 shown in Figures 3 and 4 transmits at the same time on a point-to-point channel. Furthermore, as previously argued, paragraphs [0028] and [0029] of Terry I only disclose Quality of Service (QoS) requirements. There is no indication that these requirements are compared with a "required link quality" as argued by the Office. A person of ordinary skill in the art would clearly understand that Terry I simply discloses that point-to-point is used in Terry I for a predetermined higher QoS requirement while point-to-multipoint is used with predetermined lower QoS requirements. A comparison with a threshold is neither disclosed nor suggested by Terry I.

Regarding claims 17 and 34 in the Response to Amendment section, the Office asserts that Terry I teaches estimating a link quality of a point-to-multipoint while transmitting multicast data on a point-to-point channel to a mobile, making reference to the CCC transmits to each UE or mobile or point-to-point. The CCC, as discussed above, relates to a downlink common control channel 13 as shown in Figure 2 of Terry I and is therefore not related to a point-to-point channel.

Furthermore, it is respectfully submitted that the link quality estimation performed by claim 17 is not taught by the Quality of Service requirements of paragraphs [0027]-[0029] of Terry I for the reasons set forth above.

For all of these reasons, claim 17 is believed to be not anticipated by Terry I.

Independent apparatus claim 19 corresponds to method claim 17 and, for similar reasons, is also not anticipated by Terry I.

Independent apparatus claim 29 corresponds to apparatus claim 19, but written using means plus function terminology and is therefore similarly not anticipated by Terry I for the reasons presented above.

Independent method claim 34 is similar to independent method claim 17, but written from the perspective of the mobile station and, for similar reasons as those presented above with regard to claim 17, is not anticipated by Terry I.

Finally, dependent claims 20, 21, and 25 are also not anticipated by Terry I at least in view of their ultimate dependency from claim 19.

At section 6, claim 9 is rejected under 35 USC §103(a) as unpatentable over Terry I in view of Homma, further in view of US patent application publication 2001/0046877, Ohkubo. Dependent claim 9 ultimately depends from claim 1 and is therefore believed to be allowable at least in view of such dependency.

At section 7, claims 13 and 22 are rejected under 35 USC §103(a) as unpatentable over Terry I in view of Homma, further in view of US patent 6,571,112, Ramaswamy. Claims 13 and 22 respectively depend from independent claims 1 and 17 and are believed to be distinguished over the cited art at least in view of such dependency.

Claim Rejections - 35 USC §101

At sections 8 and 9, claims 13 and 22 are rejected under 35 USC §101 as directed to non-statutory subject matter. Specifically, the Office argues that the recited software program product is not a process, machine, or article of manufacture and therefore is directed to non-statutory subject matter. Applicant respectfully disagrees.

As particularly pointed out in applicant's prior response filed on 7 July 2008, claims 13 and 22 are specifically directed to a "software program product" which is defined in the application as storing software code for running in a processing component (specification, page 6, lines 17-33). This software program product is specifically for realizing the actions recited in the methods as set forth in claims 1 and

17. Thus, a “software program product” has a particular meaning as set forth in the specification of the application; which meaning must be considered by the Office.

As has been established in *Phillips v. AWH Corporation*, 415 F.3d 1303, 1326, 75 USPQ 2d 1321 (Fed. Cir. 2005), claim terms are to be given a meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention; that is, as of the effective filing date of the patent application; and:

“[i]mportantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.”

Thus, the meaning of “software program product” has a particular meaning as set forth in the specification, that meaning being an article of manufacture for storing software code which, to anyone of ordinary skill in the art, necessarily implies some type of readable medium for execution by the recited processing component as shown in Figure 4 of the application. An article of manufacture is statutory subject matter (35 USC §101) and the Interim Guidelines for the Examination of Patent Applications for Patent Subject Matter Eligibility makes clear that such a readable medium storing software code for execution by a processing component defines patentable subject matter.

Here, the methods recited in claims 1 and 17 (from which claims 13 and 22 respectively depend) are clearly statutory subject matter and, consequently, a “software program product” as defined in the specification being an article of manufacture that stores software code for execution by a processing component for carrying out these methods thereby defines statutory subject matter.

Reconsideration of the rejection of claims 13 and 22 as directed to non-statutory subject matter is therefore earnestly requested.

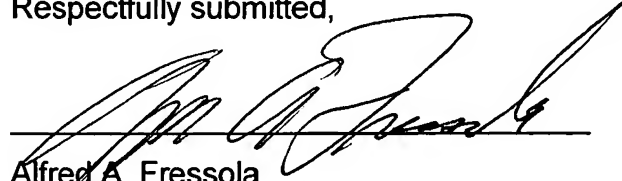
Furthermore, in response to the Response to Amendment section 11, applicant again reiterates that the term “software program product” has a particular meaning as set forth in the specification of the present application which meaning must be considered by the Office in view of *Phillips v. AWH Corporation* (see above). The Office has not addressed this issue in the Response to Amendment section 11.

Applicant notes that claims 3, 4, 18, and 30-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In view of the foregoing, applicant respectfully submits that the present application as amended is in condition for allowance and such action is earnestly solicited.

The Commissioner is hereby authorized to charge to deposit account 23-0442 any fee deficiency required to submit this paper.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Alfred A. Fressola', is written over a horizontal line.

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